

DIRECT FUEL INJECTOR ASSEMBLY FOR COMPRESSIBLE NATURAL GAS ENGINE

ABSTRACT OF THE DISCLOSURE

This invention relates to the injection of compressible gaseous fuel directly into the combustion chamber of a reciprocating piston-type internal combustion engine. In particular, the invention provides apparatus and methods for low-pressure, high-speed direct injection of compressed natural gas into a combustion chamber of an engine. Using the present invention, relatively low intake pressures of about 50 to about 150 PSIG yield high-speed (sonic and supersonic) gas flow through the diverging nozzle portion for injection into the combustion chamber. Preferably, the gas reaches supersonic velocity, approaching Mach 1.5 to 2.5.